

CURRICULUM VITAE

Sebastian Becker

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EDUCATION

Ph.D., Physics

Johannes Gutenberg University Mainz, expected fall 2012

Dissertation: "Numerical next-to-leading order calculations for multi jet events."
Supervisor : Stefan Weinzierl

Diploma in Physics

Johannes Gutenberg University Mainz, March 2010

FELLOWSHIPS

Fellow of the Graduate School *Symmetry Breaking in Fundamental Interactions* at Johannes Gutenberg University Mainz, 2010-2012

TEACHING EXPERIENCE

Teaching Assistant, Institute of Physics, Johannes Gutenberg University Mainz, 2010-present

Taught a tutorial section for a graduate course in effective field theories. Assisted in the preparation and grading of exams.

RESEARCH EXPERIENCE

Research Fellow, Institute of Physics, Johannes Gutenberg University Mainz, 2009-present

Developed an algorithm for the numerical calculation of one-loop QCD amplitudes with future applications in high precision LHC data analysis. Developed local infrared subtraction terms and a suitable contour deformation for massless and massive QCD. Extended the tree-level Berends Giele recursion relations to the one-loop level. Applied these techniques to efficient one-loop calculations.

PUBLICATIONS

Mohammad Assadsolimani, Sebastian Becker, Stefan Weinzierl. “A simple formula for the infrared singular part of the integrand of one-loop QCD amplitudes.” *Phys.Rev.D*,81.094002,2010

Sebastian Becker, Christian Reuschle, Stefan Weinzierl. “Numerical NLO QCD calculations.” *JHEP*,1012:013,2010

Sebastian Becker, Daniel Goetz, Christian Reuschle, Christopher Schwan, Stefan Weinzierl. “ NLO results for five, six and seven jets in electron-positron annihilation.”,arXiv:1111.1733v1 [hep-ph],2011

CONFERENCE PRESENTATIONS

Sebastian Becker. “Multiparton NLO corrections by numerical methods.” RADCOR2011, Mamallapuram, India, September 2011.

RESEARCH INTERESTS

High precision calculations
Contour deformation
NLO and NNLO calculations

REFERENCES

Stefan Weinzierl, Institute of Physics (WA THEP), Johannes Gutenberg University Mainz
Matthias Neubert, Institute of Physics (WA THEP), Johannes Gutenberg University Mainz
Hubert Spiesberger, Institute of Physics (WA THEP), Johannes Gutenberg University Mainz